

PCT

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INTERNATIONALE ANMELDUNG VERÖFFENTLICHT NACH DEM VERTRAG ÜBER DIE  
INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT)

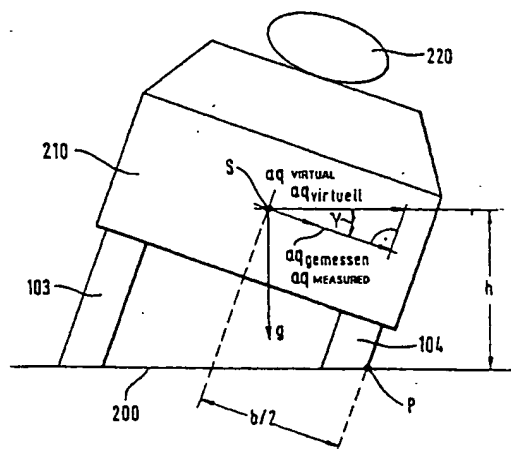
<p>(51) Internationale Patentklassifikation 7 : <b>B60K 31/00, B60T 8/24</b></p>	<p><b>A1</b></p>	<p>(11) Internationale Veröffentlichungsnummer: <b>WO 00/03887</b></p> <p>(43) Internationales Veröffentlichungsdatum: <b>27. Januar 2000 (27.01.00)</b></p>
<p>(21) Internationales Aktenzeichen: <b>PCT/EP99/05080</b></p> <p>(22) Internationales Anmeldedatum: <b>16. Juli 1999 (16.07.99)</b></p> <p>(30) Prioritätsdaten: 198 31 841.3      16. Juli 1998 (16.07.98)      DE 198 56 303.5      7. Dezember 1998 (07.12.98)      DE</p> <p>(71) Anmelder (für alle Bestimmungsstaaten ausser US): <b>CONTINENTAL TEVES AG &amp; CO. OHG [DE/DE]; Guerickestrasse 7, D-60488 Frankfurt am Main (DE).</b></p> <p>(72) Erfinder; und</p> <p>(75) Erfinder/Anmelder (nur für US): <b>WOYWOD, Jürgen [DE/DE]; Liebknechtstrasse 10, D-64546 Mörfelden (DE). GRONAU, Ralph [DE/DE]; Joh. Pinzier-Strasse 7, D-35083 Wetter (DE). BURKHARD, Dieter [DE/DE]; Helle Röder Strasse 78, D-67714 Waldfischbach-Burgalben (DE). IHRIG, Hans, Georg [DE/DE]; Emilstrasse 28, D-64293 Darmstadt (DE). KIENLE, Lothar [DE/DE]; Mozartstrasse 11, D-68623 Lampertheim (DE).</b></p> <p>(74) Gemeinsamer Vertreter: <b>CONTINENTAL TEVES AG &amp; CO. OHG; Guerickestrasse 7, D-60488 Frankfurt am Main (DE).</b></p>	<p>(81) Bestimmungsstaaten: <b>JP, US, europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</b></p> <p><b>Veröffentlicht</b> <i>Mit internationalem Recherchenbericht. Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist; Veröffentlichung wird wiederholt falls Änderungen eintreffen.</i></p>	

(54) Title: **METHOD AND DEVICE FOR DETECTING THE OVERTURNING HAZARD OF A MOTOR VEHICLE**

(54) Bezeichnung: **VERFAHREN UND EINRICHTUNG ZUM ERFASSEN DER GEFAHR DES UMKIPPENS EINES KRAFTFAHRZEUGS**

(57) Abstract

The invention relates to a method for detecting the roll angle ( $\gamma$ ) of a cornering vehicle which comprises at least one axle and at least two wheels (103, 104). Said vehicle is equipped with a transversal acceleration sensor system (115) which senses transversal acceleration ( $a_{q\text{measured}}$ ), said acceleration acting upon the center of gravity (S) of the motor vehicle, essentially in the horizontal plane of the vehicle. The aim of the invention is to provide a method which does not require an additional sensor system and which is thus more or less independent of given vehicle characteristics or dimensions. To this end, the component of the transversal acceleration ( $a_{q\text{measured}}$ ) acting essentially in the horizontal plane of the vehicle is detected by the transversal acceleration sensor system (115) during cornering. In addition, a state variable ( $a_{q\text{virtual}}$ ) which is correlated to the centrifugal acceleration acting upon the center of gravity (S) is detected, and the roll angle ( $\gamma$ ) of the vehicle is calculated from the difference, said difference being weighted with a factor, between the detected component of the transversal acceleration ( $a_{q\text{measured}}$ ) and the detected centrifugal acceleration ( $a_{q\text{virtual}}$ ).



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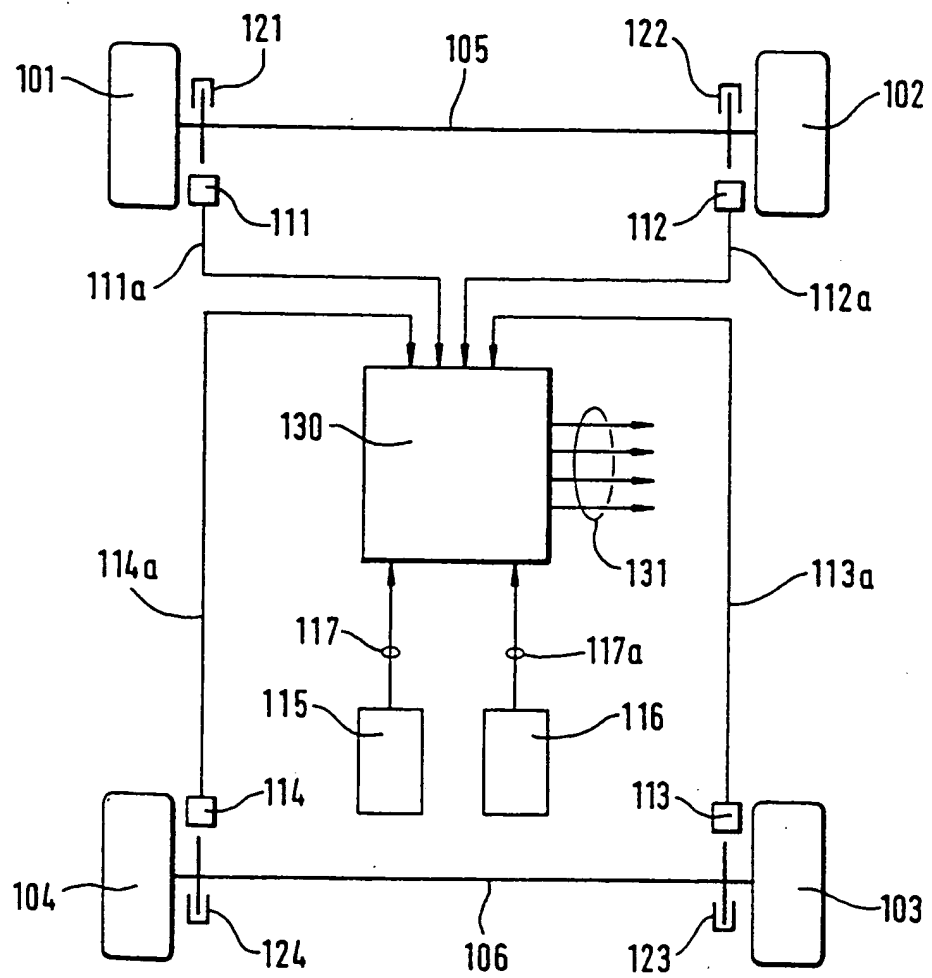


Fig. 1

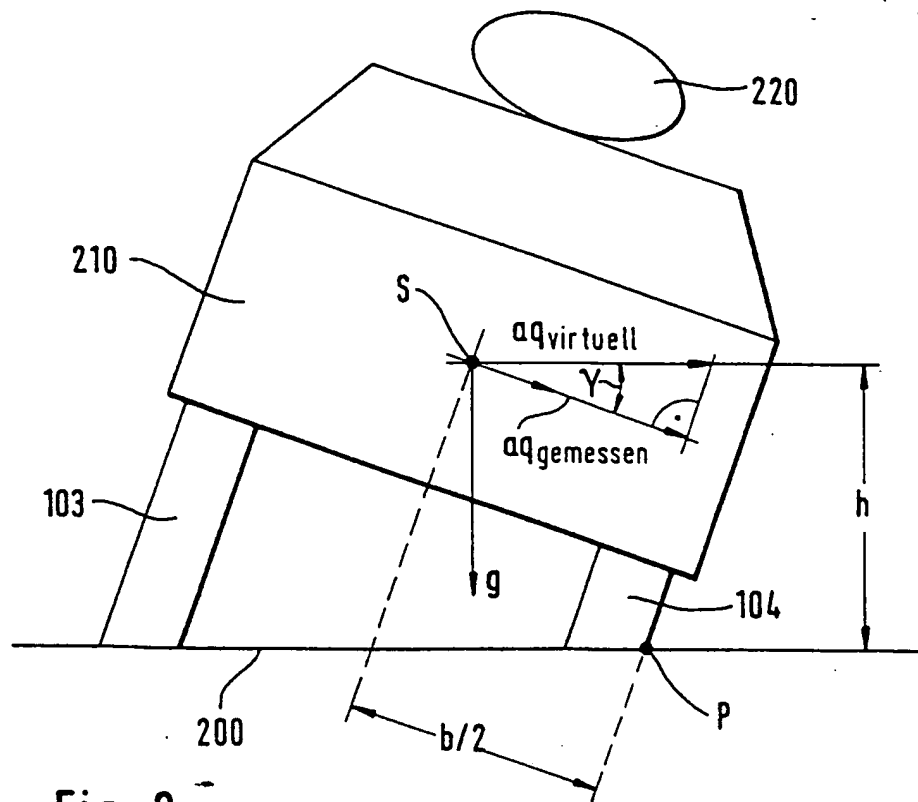


Fig. 2a

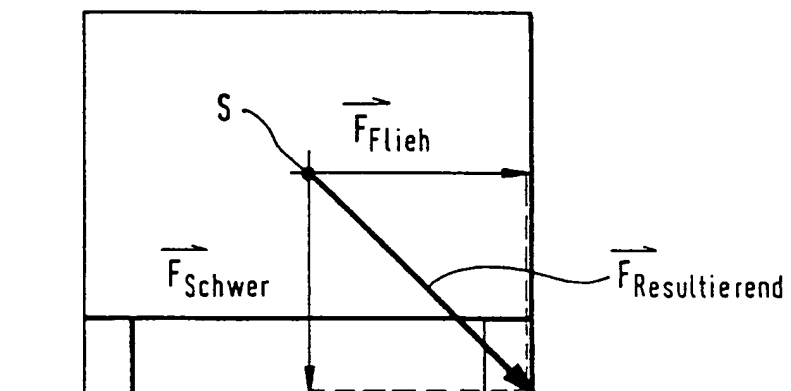


Fig. 2b

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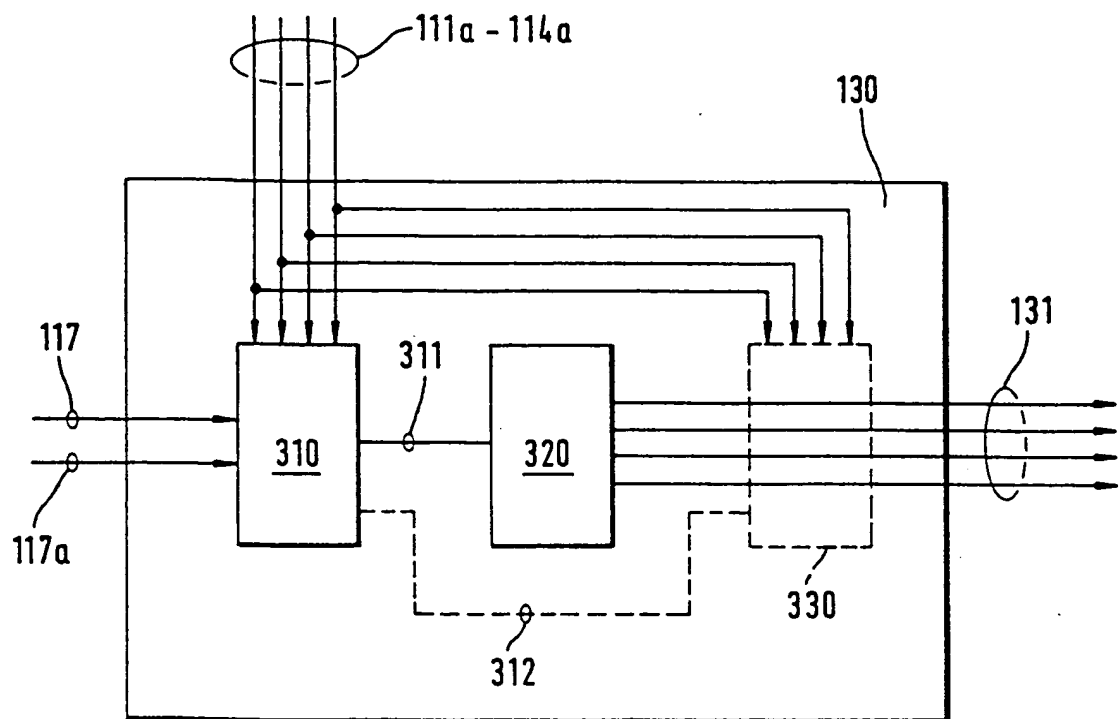


Fig. 3

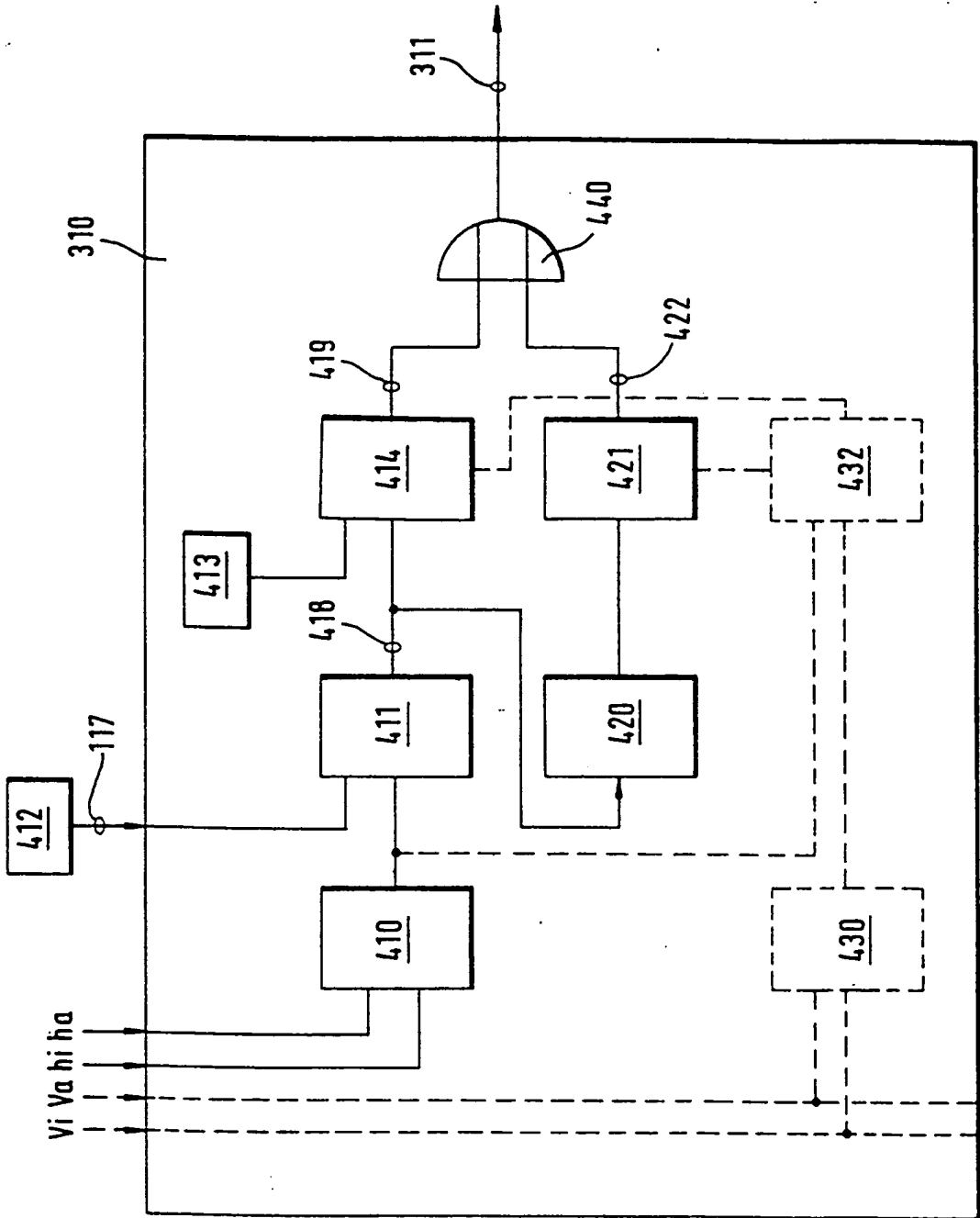


Fig. 4